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⑤4発明の名称　製パン改良剤及びそれを用いる製パン方法

⑳特　願　平2-196360
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* 117: 68877f Bread quality-improving agents containing glucose oxidase and lipase. Sato, Nobuyoshi; Sato, Mikiko; Nagashima, Akihiro (Oriental Kobo Kogyo K. K.) Jpn. Kokai Tokkyo Koho JP 04 84,848 [92 84,848] (Cl. A21D2/24), 18 Mar 1992, Appl. 90/196,360, 26 Jul 1990; 4 pp. Bread quality-improving agents contg. glucose oxidase (I), lipase (II), and optional lipoxidase (III) and a process for bread manuf. using the quality-improving agents are claimed. I, which converts glucose to gluconic acid, promotes crosslinks of gluten, while II inhibits excess firmness of dough by I to improve expandability of dough and softness of the bread, and the quality-improving agents are substitutes for conventional yeast food and dough conditioners. III mainly promotes oxidn. of unsatd. fatty acids to complement the oxidn. action of I and also oxidizes carotene to whiten the bread. A dough obtained from a compn. contg. wheat flour 100, sugar 5%, salt 2, shortening 4, yeast 3, II 0.03, soybean powder 0.1%, and I 60 ppm was free of stickiness and made into bread with excellent quality.

明　細　書

1.発明の名称

製パン改良剤及びそれを用いる製パン方法

2.特許請求の範囲

(1) グルコースオキ:
有してなることを特徴と

(2) グルコースオキシ
ポキシダーゼを含有して
パン改良剤。

(3) グルコースオキシ
又はリポキシダーゼが、1
養物、及び/又は含有物の
とする請求項1又2に記載

(4) 請求項1～3のいず
ン改良剤を使用することを
発明の詳細な説明

3.発明の詳細の説明

(産業上の利用分野)

本発明は製パン改良剤、特に臭素酸カリウムを使用しないいわゆる天然物のみからなる新規にして安全な製パン改良剤に関する。

また同じく本発明はこの製パン改良剤を用いてパンを製造する新しい製パン方法にも関する。

(従来の技術)

パンの[illegible]助する目的でイースト・フードされ、$CaSO_4$(24.93%)、NaCl(9.38%)、澱粉(40.49%)、らなる古典的なArkadyタイプの以来、パンの体積や食感等を改ト・フードのほかドウコンデ添加剤の開発が行われるよう

、製パン改良剤としては、例臭素酸カリウム、過硫酸アいており、製パン業界では臭酸カリウム、ブロメート)が

また、最近になって臭素酸カリウムのほかに、L-アスコルビン酸も使用されるようになったが、いずれも天然物は使用されておらず、現時点では、純粋の天然物のみからなる製パン改良剤で満足す

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1. Name of Invention

Bread improvers and the process for bread manufacture using the bread improvers.

2. Extent of the patent right

1)Bread improvers containing glucose oxidase and lipase.

2)Bread improvers containing glucose oxidase,lipase and lipoxidase.

3)Bread improvers written in 1) and 2),which characterize glucose oxidase, lipase and lipoxidase are refined enzyme,crude enzyme, cultivated substance and contained substance.

4)Bread manufacture using the bread improvers which are claimed 1),2) and 3).

3. Detailed explanation of invention

Glucose oxidase which converts glucose to gluconic acid,promotes cresslinks of gluten and oxidation of dough.

But it is not good to use big amount of glucose oxidase.Because it causes firmness of the dough and not enough expandability.

To help the action of glucose oxidase it is good to use lipase.

Lipase which decompose triglyceride into glycerin and fatty acid inhibit excess firmness of the dough aging of bread and promote expandability and softness of the dough.

Also to promote oxidation of glucose oxidase it is possible to use catalase.

Lipoxidase which oxidize carotene and unsaturated fatty acid that have methylene(lionic acid,linlenic acid etc.),promote oxidation of glucose oxidase.

Lipase also oxidizes carotene in wheat flour to whiten and soften bread.

It is better to get a good effect to use two or three enzymes in these rather than only one.

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4. Effect of invention

The bread improvers of this invention contain only natural enzyme so that it is superior in safety and new substances.

Also this bread improvers can be applyed to any kind of bread manufacturing methods,and it is effective for both long-time and short-time bread manufacture methods.

This is a free-type bread improvers that make soft and expansive dough and excelent taste and texture of bread.